

**AMENDMENT TO THE DRAWINGS:**

The attached sheet of drawings includes changes to Fig. 1. This sheet replaces the original sheet for Fig. 1.

In Fig. 1, the words --(Prior Art)-- have been added to the legend of the Fig.

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**REMARKS:****In the Drawings:**

The words --(Prior Art)-- have been added to Fig. 1 in the attached replacement sheet. Withdrawal of the objection is respectfully requested.

**Claims 1-3 and 8-15**

Claims 1-3 and 8-15 have been rejected under 35 USC 103(a) as being unpatentable over admitted prior art (APA), Fig. 1 in view of Welland et al. (US6483390).

The analysis of obviousness was set forth in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966). In order to establish a *prima facie* case of obviousness, three basic criteria must be met:

First, there must be some *suggestion or motivation*, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings of the references. Second, there must be a *reasonable expectation of success*. Finally, the prior art reference or combined references must teach or suggest *all the claim limitations*. *The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art*, and not based on applicant's disclosure (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991; emphasis added).

Applicant respectfully disagrees with the Examiner's assertion that it would have been obvious to combine the teachings of APA and Welland to anticipate claim 1. Specifically, the combination proposed in the rejection fails the first element of the *Graham* test.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Claim 1 requires a passive capacitor part and an active resistor part. Nowhere

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does APA FIG. 1 suggest that an active resistor would part would provide any benefit (absent the teachings of Applicant's disclosure). Likewise, Welland merely discloses a variable capacitance circuit (Fig. 17B) that is used in the Voltage Controlled Oscillator (VCO) 400 itself to fine tune the VCO. Welland also teaches a loop filter (LF) 210 (Figs. 2 and 5) between charge pump (CP) 208 and the VCO 410. Nowhere does Welland indicate that the loop filter 210 is anything other than a standard filter of the type shown in APA.

Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). Nor does Welland suggest that the circuit of Fig. 17B could even be used in a loop filter. Referring to Welland col. 24, lines 2-4, a plurality of the circuits of Fig. 17B can be used to provide the variable capacitance ( $C_A$ ) 406 of Fig. 4. Referring to Fig. 4 and col. 7, lines 40-42, the circuit 400 of Fig. 4 is the VCO itself, not the loop filter. Referring next to Fig. 5, it is seen that the loop filter 210 and VCO 400 are indeed individual structures. Nowhere does Welland suggest that implementation of a variable resistor part in a Type 2 phase lock loop filter would provide any benefit.

In fact, Welland appears to teach away from varying the capacitance of the loop filter. A *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997). The frequency synthesizer in Welland implements a variable capacitance in the VCO to make up for deficiencies in the loop filter. Note Welland col. 3, lines 38-41.

Accordingly, it cannot be said that either reference suggests the combination of features proposed in the rejection.

Nor has the Examiner provided a reasonable motivation based on knowledge generally available to those skilled in the art and not provided by Applicant in the present disclosure.

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“To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” Ex parte Clapp, 227 USPQ 972, 973 (Bd.Pat.App.&Inter.1985).

Here, the Examiner has indicated that the motivation to combine the references is based on being able to tune the filter circuit. However, as pointed above, neither APA nor Welland teach or suggest a loop filter having an active resistor part. Again, Welland goes so far as to tune the VCO rather than make the loop filter adjustable. There is no suggestion in the rejection that one skilled in the art would appreciate that addition of a variable resistor part to APA would even work to tune the filter. Thus, one skilled in the art would not have found the claimed invention to have been obvious in light of the teachings of the references.

Accordingly, it cannot be said that one skilled in the art would have been motivated to modify APA as suggested in the rejection. The only conclusion that can be drawn is that the modification proposed in the rejection has been impermissibly drawn from Applicant's disclosure. Therefore, the rejection fails the first prong of the *Graham* test.

Because the *Graham* test is not met, allowance of claim 1 is respectfully requested.

Claims 2, 3, 8 and 12-15 depend from claim 1, and are therefore also believed to be allowable over the combination proposed. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Claim 2 has been further amended to require that the Type Two phased locked loop filter operates from a voltage, wherein the active resistor is continuously variable and is controlled by a regulator circuit that follows the type two phased locked loop

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voltage. This feature is not found in the art of record.

Further, regarding claim 12, nowhere does Welland or APA disclose that the resistance of the active resistor is controlled by a feedback loop coupled to an input of the active resistor. The rejection refers to Welland Figs. 4 and 5. However, Welland Fig. 4 is a VCO 400, not a loop filter, and does not show an active resistor part. Nowhere in Fig. 4 is a feedback loop shown. Likewise, Welland Fig. 5 shows a loop filter 210 and a VCO 400, but no feedback loop controlling an active resistor part. Accordingly, each and every element of claim 12 is neither taught nor suggested in the art of record. Allowance of claim 12 is respectfully requested.

Claims 9 and 10 include limitations similar to those of claim 1, and so are believed to be allowable for the same reasons as presented above for claim 1. Reconsideration and allowance of claims 9 and 10 is respectfully requested.

Claim 11 depends from claim 10, and is therefore also believed to be allowable over the combination proposed.

#### Claims 4-7

Applicant acknowledges and appreciates indication of allowable subject matter in claims 4-7. Claim 4 has been rewritten to include all of the limitations of the base claim and any intervening claims. Allowance of claims 4-7 is respectfully requested.

#### Claims 16-18

New claims 16-18 have been added to vary the scope and further define the present invention. These claims are fully supported in the present application and figures.


In the event a telephone conversation would expedite the prosecution of this

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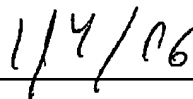
application, the Examiner may reach the undersigned at (408) 971-2573. For payment of any additional fees due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 09-0466 (Order No. GB920020058US1).

Respectfully submitted,

By: \_\_\_\_\_

  
Dominic M. Kotab  
Reg. No. 42,762

Date: \_\_\_\_\_



Zilka-Kotab, PC  
P.O. Box 721120  
San Jose, California 95172-1120  
Telephone: (408) 971-2573  
Facsimile: (408) 971-4660

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